



Application No.: 10/079,479

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**IN THE UNITED STATES PATENT & TRADEMARK OFFICE**

IN RE APPLICATION OF :  
GOTTLIEB-GEORG LINDNER, ET AL. : EXAMINER: NGUYEN  
SERIAL NO: 10/079,479 :  
FILED: FEBRUARY 22, 2002 : GROUP ART UNIT: 1793  
FOR: SILICA BY PRECIPITATION AT  
CONSTANT ALKALI NUMBER, AND ITS USE

**REPLY BRIEF**

COMMISSIONER FOR PATENTS  
ALEXANDRIA, VIRGINIA 22313

SIR:

In reply to the Examiner's Answer dated June 2, 2009, the Examiner is requested to reconsider her position in view of the following remarks.

The Examiner has maintained that Claims 1, 4-5, 10-12, 14-19 and 22-28 stand rejected as being obvious under 35 U.S.C. §103 (a) over EP '755 (EP 0 937 755) in view of Turk et al (US 4,001, 379). That rejection is untenable and should not be sustained.

The arguments presented in the Appeal Brief are incorporated herein by reference. In addition, Applicants wish to address the Examiners' statement that Applicants should not limit the disclosure of EP '755 to the content of the examples. Applicants have already provided a comprehensive study of the disclosure of EP '755 and came to the conclusion, that none of the documents cited in EP '755, which might have been used to broaden the

disclosure of EP '755, comprises any additional disclosure of value. This argument has been ignored so far by the Examiner. However, there is no additional teaching in EP '755 as alleged by the Examiner.

In this regard Applicants have the following comments:

- EP '755 teaches merely a special drying method (see Paragraphs 7 and 13 to 20)
- As regards precipitation of the silicas, EP '755 refers to methods described in older patents. It explicitly mentions DE 1467019 (Paragraph 12 and product A), DE3144299 (product B) and DE 19526476 (product C). The entire teaching from EP '755 therefore consists of

- Precipitation according to DE 1467019 + drying according to EP '755,
- Precipitation according to DE 3144299 + drying according to EP '755,
- Precipitation according to DE 19526476 + drying according to EP '755.

The question now becomes, what disclosure content do DE 1467019, DE 3144299 and DE 19526476 have with regard to precipitation.

Further, the Sears number was increased in the present invention, for example, as disclosed at page 2, lines 17 to 20 of the specification, where it is explicitly pointed out that the silanol group density = Sears number is determined by the alkali number [AN], or in other words by the variation of pH/AN during precipitation. As regards the examiner's objection, it must therefore be examined whether the patents cited in EP '755 permit any variances in relationship to the pH variation during the precipitation process.

DE 1467019 discloses precipitation at constant pH, wherein the pH must be maintained constant in the range of 10 to 12 (see DE '019, page 5, 4<sup>th</sup> paragraph). This permissible variation range of 2 pH units ( $11 \pm 1$ ) disclosed in DE '167 corresponds to the range that must often be maintained in practice during large-scale industrial tests (see also EP '755, Example 1), and it means nothing other than that the pH must be constant at 11. Thus the disclosure content of DE '019 does not go beyond that of Example 1 of EP '755. The statement made concerning Example 1 of EP '755 is therefore representative of the total disclosure of the precipitation according to DE 1467019 + drying according to EP '755.

On page 9, lines 1 to 17, DE 3144299 discloses a method in which the pH must be maintained constant at 6 to 7 and the solids content must always be exactly 46 g/L. Thus DE '299 does not permit any variation whatsoever of pH and solids content. The disclosure content of the precipitation according to DE 3144299 + drying according to EP '755 therefore does not go beyond the already discussed Example 2 of EP '755, even if the entire document is considered.

In the general description of the method of DE 19526476 (p. 2, lines 41 to 53), it is disclosed that the alkali number must always be  $7 \pm 1$ . Thus DE '476 does not permit any variation whatsoever of the alkali number. Thus the disclosure content of the precipitation according to DE 19526476 + drying according to EP '755 also does not go beyond that of Example 3 of EP '755.

In summary, even considering the complete teaching of the manufacturing process disclosed in EP '755 in combination with those in the references DE 1467019, DE 3144299 and DE 19526476, or in other words the complete teaching of all patents cited in EP '755, it

Application No.: 10/079,479

is found that there is no teaching by which a Sears number of  $> 25$  could be achieved. This is due to the fact that the Sears number, or in other words the number of silanol groups on the silica surface, is determined by the variation of pH/AN during precipitation, whereas all manufacturing processes disclosed in EP '755 in combination with those disclosed in the patents cited therein are incapable of any variation whatsoever of the pH values or alkali numbers. Thus the examiner's objection that Applicants have compared only the examples in their arguments is not correct, since the total disclosure content of EP '755 as regards the Sears number is, as demonstrated, no more than what appears in the examples.


Incidentally, it is noted that the detailed analysis of the references presented above also contradicts the examiner's assertion that it would have been obvious to increase the alkali number. **All manufacturing processes disclosed in the cited patents teach precisely the opposite, namely not changing the pH and the alkali number.**

Thus, the rejection of Claims 1, 4-5, 10-12, 14-19 and 22-28 over EP '755 in view of Turk et al should be REVERSED.

Respectfully submitted,

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